2. (Amended) A method of manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film comprising silicon over a substrate;

irradiating said semiconductor film with laser light in air for crystallizing said semiconductor film;

removing an oxide film formed on a surface of the semiconductor film by etching after the irradiation of the laser light; and

leveling the surface of the semiconductor film by heating in a reducing atmosphere after removing said oxide film.

3. (Amended) A method of manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film comprising silicon over a substrate;

irradiating said semiconductor film with laser light in air for crystallizing said semiconductor film;

C1 removing an oxide film formed on a surface of the semiconductor film by etching after the irradiation of the laser light; and

leveling the surface of the semiconductor film by heating in an inert gas after removing said oxide film.

4. (Amended) A method of manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film comprising silicon over a substrate;

irradiating said semiconductor film with laser light in air for crystallizing said semiconductor film;

removing an oxide film formed on a surface of the semiconductor film by etching after the irradiation of the laser light; and

leveling the surface of the semiconductor film by heating in an atmosphere after removing said oxide film, a concentration of oxygen or an oxygen compound contained in said atmosphere is 10 ppm or less.

5. (Amended) A method of manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film comprising silicon over a substrate;

irradiating said semiconductor film with laser light in air for crystallizing said semiconductor film;

removing an oxide film formed on a surface of the semiconductor film by etching after the irradiation of the laser light; and

leveling the surface of the semiconductor film by heating in a reducing atmosphere after removing said oxide film, a concentration of oxygen or an oxygen compound contained in said reducing atmosphere is 10 ppm or less.

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6. (Amended) A method of manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film comprising silicon over a substrate;

irradiating said semiconductor film with laser light in air for crystallizing said semiconductor film;

removing an oxide film formed on a surface of the semiconductor film by etching after the irradiation of the laser light; and

leveling the surface of the semiconductor film by heating in an inert gas after removing said oxide film, a concentration of oxygen or an oxygen compound contained in said inert gas is 10 ppm or less.

10. (Amended) A method of manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film comprising silicon over a substrate;

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irradiating said semiconductor film with laser light in air for crystallizing said semiconductor film;

treating a surface of the semiconductor film with a hydrofluoric acid after the irradiation of the laser light; and

leveling the surface of the semiconductor film by heating after the treatment with said hydrofluoric acid in an atmosphere, a concentration of oxygen or an oxygen compound contained in said atmosphere is 10 ppm or less.

11. (Amended) A method of manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film comprising silicon over a substrate;

irradiating said semiconductor film with laser light in air for crystallizing said semiconductor film;

treating a surface of the semiconductor film with a hydrofluoric acid after the irradiation of the laser light; and

C2 leveling the surface of the semiconductor film by heating after the treatment with said hydrofluoric acid in a reducing atmosphere, a concentration of oxygen or an oxygen compound contained in said reducing atmosphere is 10 ppm or less.

12. (Amended) A method of manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film comprising silicon over a substrate;

irradiating said semiconductor film with laser light in air for crystallizing said semiconductor film;

treating a surface of the semiconductor film with a hydrofluoric acid after the irradiation of the laser light; and

leveling the surface of the semiconductor film by heating after the treatment with said hydrofluoric acid in an inert gas, a concentration of oxygen or an oxygen compound contained in said inert gas is 10 ppm or less.

19. (Amended) A method of manufacturing a semiconductor device

C3 comprising the steps of:

forming a semiconductor film comprising silicon over a substrate;

irradiating said semiconductor film with laser light in an atmosphere containing oxygen for crystallizing said semiconductor film;

removing an oxide film formed on a surface of the semiconductor film by etching after the irradiation of the laser light; and

leveling the surface of the semiconductor film by heating in an atmosphere after removing said oxide film, a concentration of oxygen or an oxygen compound contained in said atmosphere is 10 ppm or less.

20. (Amended) A method of manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film comprising silicon over a substrate;

irradiating said semiconductor film with laser light in an atmosphere containing oxygen for crystallizing said semiconductor film;

C3 treating a surface of the semiconductor film with a hydrofluoric acid after the irradiation of the laser light; and

leveling the surface of the semiconductor film by heating after the treatment with said hydrofluoric acid in an atmosphere, a concentration of oxygen or an oxygen compound contained in said atmosphere is 10 ppm or less.

21. (Amended) A method of manufacturing a semiconductor device according to claim 19, wherein the step of leveling the surface of said semiconductor film is conducted by furnace annealing.

22. (Amended) A method of manufacturing a semiconductor device according to claim 20, wherein the step of leveling the surface of said semiconductor film is conducted by furnace annealing.

23. (Amended) A method of manufacturing a semiconductor device according to claim 19, wherein the step of leveling the surface of said semiconductor film is conducted between 900 and 1200 °C.

24. (Amended) A method of manufacturing a semiconductor device according to claim 20, wherein the step of leveling the surface of said semiconductor film is conducted between 900 and 1200 °C.

25. (Amended) A method of manufacturing a semiconductor device according to claim 19, wherein said atmosphere in said leveling step contains an inert gas.

26. (Amended) A method of manufacturing a semiconductor device according to claim 20, wherein said atmosphere in said leveling step contains an inert gas.

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27. (Amended) A method of manufacturing a semiconductor device according to claim 19, wherein said atmosphere in said leveling step contains a reducing atmosphere.

28. (Amended) A method of manufacturing a semiconductor device according to claim 20, wherein said atmosphere in said leveling step contains a reducing atmosphere.

29. (Amended) A method of manufacturing a semiconductor device according to claim 19, further comprising a step of treating a surface of the semiconductor film with a buffered hydrofluoric acid before the irradiation of the laser light.

30. (Amended) A method of manufacturing a semiconductor device according to claim 20, further comprising a step of treating a surface of the semiconductor film with a buffered hydrofluoric acid before the irradiation of the laser light.